

**What is claimed is:**

1. A method for producing an optical device having an organic polymer film through which a light beam is transmitted, which comprises

applying a solution containing an organic polymer film-forming starting material on a substrate to form the applied film,

and then baking the applied film under vacuum of 1 Torr or lower to form the organic polymer film,

wherein the organic polymer film has a high transmittance when the light beam has a wavelength of 1.5  $\mu\text{m}$  or shorter.

2. A method for producing an optical device having an organic polymer film through which a light beam is transmitted, which comprises

applying a solution containing an organic polymer film-forming starting material on a substrate to form the applied film,

and then baking the applied film under gaseous nitrogen to form the organic polymer film,

wherein the organic polymer film has a high transmittance when the light beam has a wavelength of 1.5  $\mu\text{m}$  or shorter.

3. A method according to claim 1, wherein the organic polymer film has an absorptivity coefficient of light of not more than  $1.6 \text{ mm}^{-1}$  in the wavelength of 650 nm.

4. A method according to claims 1 or 2, wherein the light beam has a wavelength of 500 nm to 800 nm.

5. A method according to claims 1 or 2, wherein the organic polymer film is a polyimide resin film.

6. A method according to claim 1, wherein the polyimide resin film is a photosensitive polyimide resin film.

7. A method according to claim 2, wherein the polyimide resin film is a photosensitive polyimide resin film.
8. A method according to claim 1, wherein the organic polymer film has a thickness not less than 5  $\mu\text{m}$  and not more than 200  $\mu\text{m}$ .
9. A method according to claim 1, wherein the applied film is preparatorily heated under atmospheric pressure, before the baking under vacuum.
10. A method according to claim 1, wherein the baking is performed under a vacuum of  $1 \times 10^{-2}$  Torr.
11. A method according to claim 6, wherein the photosensitive polyimide type resin film is an acetophenone type resin film.
12. A method according to claim 6, wherein the photosensitive polyimide type resin film includes a tertiary amine.
13. A method according to claim 1, wherein the organic polymer film-forming starting material is a precursor of a polyimide type resin.